



UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/551,272	04/18/00	LI	Y 04873--06500

FISH AND RICHARDSON PC
225 FRANKLIN STREET
BOSTON MA 02110-2804

MM92/0628

EXAMINER

HENRY, J

ART UNIT

PAPER NUMBER

2872

DATE MAILED:

06/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/551,272

Applicant(s)

LI ET AL.

Examiner

Jon W. Henry

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.
- 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17 and 24-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION***Election/Restrictions***

1. Applicant's election without traverse of species (f) Fig. 8 in Paper No. 8 is acknowledged. Claims 18-23. Claims 18-22 clearly relate only to nonelected elected species. Claim 23 is also withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention. The elected species of Fig. 8 shows an axicon with an axicon surface facing a CCD imager 52 and a planar convex lens facing away from the axicon. The specification indicates other types of lenses, such as a "doublet," a "symmetric double Gaussian" or a "Cook [sic] triplet" could be used. However, there is no suggestion in the specification of using the features of 23 in the elected Fig. 8 embodiment. In fact, the features of claim 23 do not pertain to the Fig. 8 embodiment that uses a separate axicon element of a particular type with no indication any other kind is intended in association with the Fig. 8 embodiment.

Information Disclosure Statement

2. The information disclosure statement filed on September 27, 2000, fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609, because applicant's statement that "The following references were submitted to and/or cited by the Office in the prior application" because the statement does not specify the "prior application" being referenced as 37 CFR 1.98(d) requires. In fact, the Examiner obtained the parent application Serial No. 09/109,018 and did not find any of the literature references cited by applicant in that application. Therefore those citations have been lined through on form PTO-1449. Perhaps applicant intended to relate those references to one or more of the four other previous related applications. In any case, the examiner has lined through those citations because applicant failed to properly identify the prior

Art Unit: 2872

application(s). The information contained in the documents of the lined through citations has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Drawings

3. Formal drawings were received on April 19, 2001.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 25, 26 and 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification contains essentially no details of how the various features of claims 25, 26 and 28 would be incorporated in the Fig. 8 embodiment. Cooke triplet lenses and symmetric double Gaussian lenses are well known types of lenses and designing lens systems with

Art Unit: 2872

particular MTF features is also well known, but applicant's specification is merely an invitation to experiment with the various features of the dependent claims and does not teach one skilled in the art how to implement the very general teachings of those claims. Claim 24 is not included in this rejection because the use of a doublet appears to relate merely to using multiple lens elements. Claim 27 is not included in this rejection because one would expect that the MTF of a lens system designed for use with a axicon would greatly decrease when the axicon is taken out of the optical system.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29,31

8. Claims 17 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddersen et al (-187) in view of Marom et al(-143 and -095) taken with Olmstead et al.

Reddersen et al (-187) discloses light collection optical elements for a bar code reader with the features claimed by applicant, particularly with regard to Figs. 15-18, and columns 11-13, except that Reddersen et al (-187) does not describe his "wedge" structures as axicons. However, it would have been obvious to make them as axicons because that appears to be what Reddersen et al (-187) intends them to be. Additionally, the devices of Reddersen et al (-187) are intended for extending the focal depth and axicons are well known to assist in extending focal depth, the patents to Marom et al (-143 and -095) being cited to clarify that fact and the fact using axicons for the wedge structures of Reddersen et al (-187) would have been obvious.

Art Unit: 2872

Additionally, with regard to claims 27 and ~~28~~, the teachings of Marom et al (-143 and -095) appear to make obvious the claimed MTF features, barring a showing to the contrary, because the claimed features relate to MTF ranges disclosed in the prior art or are related to dimensions in the ranges commonly used with bar code readers. *Impairment* Additionally, the features of claim 27 would have been expected in general because the claim essentially merely recites that the MTF is less with the axicon removed, which one would clearly expect of an optical system designed for use with an axicon due to changes in focus with removal of the axicon. The use of a doublet or triplet for a lens of the type of Reddersen et al (-187) would have been obvious because the use of doublet or triplets in lieu of a single lens is conventional in bar code reader systems, the patent to Olmstead et al, column 16, lines 3-7, being merely illustrative in that regard, and clearly intended in Reddersen et al (-187), for example, in column 8, lines 19-22 with regard to "may... be comprised of multiple lens elements, typically arranged in series." Additionally, plastic lenses are a common and obvious alternative to glass lenses and such plastic lenses are commonly polymers. Therefore such would have been obvious. Additionally, symmetric double Gaussian lenses and Cooke triplets are among the most common types of doublets and triplets in general and therefore would have been obvious choices, barring a showing to the contrary. Furthermore, using a CCD imager would have been obvious because at least Olmstead et al teaches the use of such in a similar bar code reader and such operate to provide similar imaging in a device deemed obvious as set forth above.

It is also noted Reddersen et al (-187) discloses diffractive features related to his lens and "wedge" elements. However, at this time, none of the claims including diffractive features are deemed to "read on" the elected invention. Additionally, although the original disclosure

Art Unit: 2872

suggests including diffractive features in the Fig. 8 embodiment generally, the Fig. 8 embodiment does not enable one skilled in the art to implement such a diffractive embodiment with the specificity that would avoid being considered an invitation to experimentation.

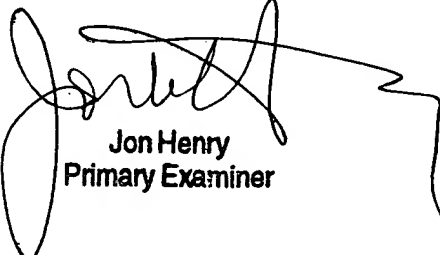
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent to Tavislan et al is cited to show the generally applicability of axicon structures in bar code readers, particularly in combination with diffractive imaging structures. The patent to Barkan et al is also cited for its teachings concerning axicon structures in bar code readers.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon W. Henry whose telephone number is (703) 305-6106. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou, can be reached on (703) 308-1687. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

jwh
June 15, 2001



Jon Henry
Primary Examiner